PERFORMANCE REPORT

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INLAND FISHERIES DIVISION MONITORING AND MANAGEMENT PROGRAM

2016 Fisheries Management Survey Report

Gilmer Reservoir

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SURVEY AND MANAGEMENT SUMMARY

Fish populations in Gilmer Reservoir were surveyed in 2014 and 2016 using electrofishing. Historical data are presented with the 2016 data for comparison. This report summarizes the results of the surveys and contains a management plan for the reservoir based on those findings.

- **Reservoir Description:** Gilmer Reservoir is a 1,010-acre impoundment constructed on Kelsey Creek in the Big Cypress River Basin and controlled by the City of Gilmer. Structural habitat consists primarily of natural shoreline features. Habitat is dominated by hydrilla and limited amounts of native aquatic plants.

- **Management History:** Largemouth Bass have been managed with an 18-inch minimum length limit since the reservoir was opened to public fishing. The reservoir has developed a well-known trophy Largemouth Bass fishery. The Texas Parks and Wildlife Department has stocked Florida Largemouth Bass since 1996 and offspring of ShareLunker brood fish in 2011 to maintain this trophy fishery. Channel Catfish have been stocked in the reservoir, but a self-sustaining population has failed to establish.

- **Fish Community**
  - **Prey species:** Threadfin Shad were present in the reservoir. Electrofishing catch rates of Gizzard Shad, Bluegill, and Redear Sunfish were higher in 2016 compared to previous surveys. The majority of Gizzard Shad were available as prey to most sport fish.

  - **Catfishes:** Sampling for Channel Catfish was not conducted because a self-sustaining population does not exist in Gilmer Reservoir.

  - **Largemouth Bass:** The Largemouth Bass population has been very consistent over the last three electrofishing surveys. Fish were abundant and the population size structure was good. The body condition of Largemouth Bass was high, which indicated that abundant prey fish were available.

  - **Crappie:** Crappie are present in the reservoir, but trap netting surveys have not been successful in collecting an adequate number of fish during previous sampling efforts.

Management Strategies: Continue stocking Largemouth Bass at 100 fish/acre every other year beginning in 2017. Conduct electrofishing surveys every other year beginning in 2018. Investigate the use of baited hoop nets in spring 2021 to collect crappie. Monitor hydrilla annually. Access and vegetation surveys will be conducted in 2020/2021.

INTRODUCTION

This document is a summary of fisheries data collected from Gilmer Reservoir in 2016-2017. The purpose of the document is to provide fisheries information and make management recommendations to protect and improve the sport fishery. While information on other fishes was collected, this report deals primarily with major sport fishes and important prey species. Historical data are presented with the 2016-2017 data for comparison.

Reservoir Description

Gilmer Reservoir is located on Kelsey Creek in the Cypress River Basin approximately 4.5 miles northwest of Gilmer, Texas. It was constructed by the City of Gilmer for municipal water and public recreation. Construction began in 1995 and the dam was completed in 2000. The reservoir filled to its conservation pool of 315 ft msl, which inundated 1,010 acres (Table 1) and the reservoir was opened to public fishing on September 29, 2001. The shoreline is undeveloped and consists of natural features. Hydrilla was present and covered 282 acres and coverage has remained relatively stable. Native aquatic vegetation covers less than 2 percent of the reservoir surface area. Water level data were not available for this reservoir due to the lack of a gauging station.

Angler Access

Gilmer Reservoir has one public boat launch east of the causeway on FM 852, which consists of two separate boat ramps and a courtesy dock. Additional boat ramp characteristics are located in Table 2. Shoreline access is limited to the area near the ramps.

Management History

Previous management strategies and actions: Management strategies and actions from the previous survey report (Wright and Bister 2013) included:

1. Continue management of Largemouth Bass fishery to maintain trophy fish potential.
   Action: Florida Largemouth Bass fingerlings were stocked (100/acre) in 2013 and 2015. Fall electrofishing surveys were conducted in 2014 and 2016 to monitor relative abundance (CPUE), body condition (mean Wr), and growth (mean age at 14 inches).
2. Continue to monitor the reservoir for invasive aquatic vegetation.
   Action: Annual surveys have been conducted to monitor the coverage of hydrilla. Other periodic inspections have been conducted to look for giant salvinia and other invasive species.

Harvest regulation history: Gilmer Reservoir was opened under statewide fish harvest regulations in 2001 for all species except Largemouth Bass. Largemouth Bass have been managed with an 18-inch minimum length limit since the reservoir was opened to public fishing. Current regulations are found in Table 3.

Stocking history: Prior to and immediately following impoundment, Gilmer Reservoir was stocked with Bluegill, Channel Catfish, Florida Largemouth Bass, and Threadfin Shad. In recent years, additional Florida Largemouth Bass have been stocked to improve the trophy potential of the fishery. Offspring of ShareLunker Largemouth Bass were stocked in 2011. The complete stocking history is in Table 4.

Vegetation/habitat management history: Coverage of aquatic vegetation in Gilmer Reservoir has been stable in past years. Even though hydrilla has been present for many years, it has not caused access-related problems in the reservoir. Giant salvinia was discovered at the boat ramp during a creel survey in January 2013 and was removed by hand. It has not been observed in subsequent inspections.

Water transfer: No interbasin water transfers are known to exist.

METHODS

Surveys were conducted to achieve survey and sampling objectives in accordance with the objective-based sampling (OBS) plan for Gilmer Reservoir (TPWD unpublished). Primary components of the OBS plan are listed in Table 5. All survey sites were randomly selected and all surveys were conducted according to the Fishery Assessment Procedures (TPWD, Inland Fisheries Division, unpublished manual revised 2015).

Electrofishing – Largemouth Bass, Sunfishes, Gizzard Shad, and Threadfin Shad were collected by electrofishing (1 hour at 12, 5-min stations). Catch per unit effort (CPUE) for electrofishing was recorded as the number of fish caught per hour (fish/h) of actual electrofishing. Ages for Largemouth Bass were determined using otoliths from 14 randomly-selected fish (range 13.0 to 14.8 inches) in 2016 and from 16 randomly-selected fish (range 13.0 to 14.6 inches) in 2014.

Angling – Historically, trap netting for Crappie has been poor. Therefore, the OBS plan recommended angling to collect Crappie for age-and-growth analysis. The target sample size was 13 randomly-collected crappie (range 9.0 to 10.9 inches).

Statistics – Sampling statistics (CPUE for various length categories), structural indices [Proportional Size Distribution (PSD), terminology modified by Guy et al. 2007], and condition indices [relative weight (W_r)] were calculated for target fishes according to Anderson and Neumann (1996). Index of vulnerability (IOV) was calculated for Gizzard Shad (DiCenzo et al. 1996). Standard error (SE) was calculated for structural indices and IOV. Relative standard error (RSE = 100 X SE of the estimate/estimate) was calculated for all CPUE statistics.

Habitat – A structural habitat survey was conducted in 2012. Annual vegetation surveys were conducted from 2013 – 2016 to monitor expansion of hydrilla. Habitat was assessed with the digital shapefile method (TPWD, Inland Fisheries Division, unpublished manual revised 2015).

Water level – Water level data is not available for Gilmer Reservoir.

RESULTS AND DISCUSSION

Habitat: The shoreline at Gilmer Reservoir consisted of natural features. Standing timber covered 367 acres and constituted 36.3% of the total surface area (Table 6). Hydrilla coverage was 282 acres in 2016, which was slightly lower than coverage in previous years. Alligatorweed was present but coverage was low. Native submerged vegetation (coontail and pondweed) covered 3 acres, native floating-leaved vegetation (white water-lily, water-primrose, and American lotus) covered 13 acres, and native emergent vegetation (bulrush, pickerelweed, cattail, and smartweed) covered 2 acres in 2016. Overall, native aquatic vegetation covered less than 2% of the reservoir surface area. Total aquatic vegetation coverage at Gilmer Reservoir was 30% of the reservoir surface area in 2016, and provides adequate habitat for the fish community. Aquatic vegetation survey results are listed in Table 7.

Prey species: Threadfin shad were present during the 2016 electrofishing survey. Electrofishing catch rates of Bluegill and Gizzard Shad were 1,213.0/h and 185.0/h, respectively. Catch rates of Gizzard Shad were higher in 2016 compared to previous survey years (Figure 1). Index of vulnerability (IOV) was good, indicating that 62% of Gizzard Shad were available to existing predators; this was about the same as IOV estimates in previous years (Figure 1). Total CPUE of Bluegill in 2016 was higher than total CPUE from surveys in 2014 and 2012 (Figure 2). The electrofishing catch rate of Redear Sunfish also increased compared to previous surveys and the population size structure was dominated by larger individuals (5 to 9 inches) (Figure 3).

Channel Catfish: Previous attempts to establish a Channel Catfish population in Gilmer Reservoir have been unsuccessful. Therefore, no sampling was conducted to target this species during population surveys.

Largemouth Bass: The electrofishing catch rate and size structure of the Largemouth Bass population in Gilmer Reservoir has been very consistent during the last three surveys, indicating an abundant population. The electrofishing catch rate of stock-size fish in 2016 was 168.0/h (Figure 4). Body condition was excellent with mean Wr values > 100 for most inch groups. Growth of Largemouth Bass was slower in 2016 compared to previous years. Average age at 14 inches (13.0 to 14.8 inches) was 2.3 years (N = 14; range = 1 – 3 years) in 2016. In 2014, the average age at 14 inches (13.0 to 14.6 inches) was 1.8 years (N = 16; range = 1 – 2 years), and in 2012 the average age at 14 inches (13.0 to 14.4 inches) was 1.6 years (N = 13; range = 1 – 3 years).

Crappie: Previous trap netting surveys have not been successful for collecting crappie population data suggesting alternative sampling methods were necessary. An attempt was made to collect crappie via angling during the 2016/2017 survey year to evaluate age-and-growth and condition. Unfortunately, only one fish was collected during the angling survey and survey objectives of the OBS plan could not be met.

Fisheries management plan for Gilmer Reservoir, Texas

Prepared – July 2017

ISSUE 1: Gilmer Reservoir has a quality Largemouth Bass fishery. Currently, Largemouth Bass are managed with an 18-inch minimum length limit. Management efforts should be made to maximize the reservoir's potential to produce a trophy Largemouth Bass fishery. Age-and-growth analysis (average age at 14 inches) has indicated slower growth in the most recent survey.

MANAGEMENT STRATEGIES

1. Electrofishing and creel survey data will be examined to ensure the 18-inch minimum length limit for Largemouth Bass is the most appropriate harvest regulation. Growth, relative abundance, and body condition of Largemouth Bass below 18 inches will be evaluated for evidence of "stock-piling" of smaller fish in the population.
2. Stock Florida Largemouth Bass at a rate of 100 fish/acre every two years beginning in 2017 to maintain the trophy potential of the fishery.

ISSUE 2: Historically, the use of trap nets to collect crappie population data has been largely unsuccessful. Previous creel surveys documented that the crappie fishery is popular at Gilmer Reservoir. An effective sampling gear is needed to monitor the crappie population. Anecdotal information suggests using tandem-series hoop nets baited with soap can be an effective way to capture crappie.

MANAGEMENT STRATEGY

1. Conduct baited hoop netting during spring 2021 to collect crappie for age-and-growth and condition assessment.

ISSUE 3: Hydrilla is present in the reservoir and has the potential to cause access problems. Giant salvinia has been discovered at the boat ramp several times during recent years; infestations have been eradicated during each occurrence via hand removal and herbicide treatment. Introduction of invasive species continue to pose a potential threat to Gilmer Reservoir.

MANAGEMENT STRATEGIES

1. Monitor for invasive aquatic plants during annual vegetation surveys.
2. Periodically check boat ramps for presence of giant salvinia and other invasive aquatic species.
3. Provide the City of Gilmer with technical information related to invasive aquatic vegetation management as necessary.
4. Recommend appropriate herbicide treatment if hydrilla obstructs access to the reservoir.

ISSUE 4: Many invasive species threaten aquatic habitats and organisms in Texas and can adversely affect the state ecologically, environmentally, and economically. For example, zebra mussels (*Dreissena polymorpha*) can multiply rapidly and attach themselves to any available hard structure, restricting water flow in pipes, fouling swimming beaches and plugging engine cooling systems. Giant salvinia (*Salvinia molesta*) and other invasive vegetation species can form dense mats, interfering with recreational activities like fishing, boating, skiing and swimming. The financial costs of controlling and/or eradicating these types of invasive species are significant. Additionally, the potential for invasive species to spread to other river drainages and reservoirs via watercraft and other means is a serious threat to all public waters of the state.

MANAGEMENT STRATEGIES

1. Cooperate with the controlling authority to post appropriate signage at access points around the reservoir.
2. Contact and educate marina owners about invasive species, and provide them with posters, literature, etc… so that they can in turn educate their customers.
3. Educate the public about invasive species through the use of media and the internet.
4. Make a speaking point about invasive species when presenting to constituent and user groups.
5. Keep track of (i.e., map) existing and future inter-basin water transfers to facilitate potential invasive species responses.

Objective-Based Sampling Plan and Schedule 2017-2021

Sport fish, forage fish, and other important fishes

Sport fishes in Gilmer Reservoir include crappie and Largemouth Bass. Known important forage species include Bluegill, Gizzard Shad, and Threadfin Shad. The proposed sampling schedule can be found on Table 8.

Low-Density Fisheries

Channel Catfish: Efforts to develop a Channel Catfish population in this reservoir using supplemental stocking have been unsuccessful. Only one fish was caught during the gill netting survey in 2013. Directed angling effort during the June 2012 through May 2013 creel survey was less than 1% of the total angling effort. Sampling this population is unnecessary in FYs 2018-2021.

Survey objectives, fisheries metrics, and sampling objectives

Largemouth Bass: Largemouth bass are the most popular sport fish in Gilmer Reservoir. Previous directed angling effort for Largemouth Bass has exceeded 60% of total effort in each of the three previous creel surveys. Trend data on relative abundance, growth, body condition, and size structure has been collected biennially since 2008 with fall nighttime electrofishing. The population is managed with an 18-inch minimum length limit. Continuation of biennial trend data in this reservoir with fall nighttime electrofishing will allow for determination of any large-scale changes in the Largemouth Bass population that may spur further investigation. A minimum of 12 randomly selected 5-min electrofishing sites will be sampled in 2018 and 2020, but sampling will continue at random sites until 50 stock-size fish are collected and the RSE of CPUE-S is $\leq$ 25. Past sampling has consistently achieved an RSE of CPUE-S < 25, so we are confident we will achieve this level of precision with the minimum sampling effort. However, up to 3 random stations will be determined in the event some extra sampling is necessary. A maximum of 15 stations will be sampled.

Sampling objectives for Largemouth Bass will include size structure (PSD and length frequency), growth (Category 3, 200 fish sample ≥ 150 mm, subsampled at 5 fish per 10 mm strata up to 500 mm, to estimate mean length at age 1-3), relative abundance (CPUE-total and CPUE-stock), and condition (mean Wr using lengths and weights from 10 fish per inch group).

Crappie: Even though trap netting has not been successful for collecting crappie in previous years, an excellent fishery does exist. Anglers targeting crappie fished 6.6 hours/acre in 2012/2013. Although White Crappies have been observed in past surveys, only Black Crappies were observed during the 2012/2013 creel survey. Growth of Black Crappie was excellent: average age at 10 inches (9.0 to 10.9 inches) from fish collected from anglers in November 2012 was 1.0 year (N = 13; range = all age 1). Mean condition (W_r) of Black Crappie at 10 inches (9.0 to 10.9 inches) was 106 (N = 8; range = 100 – 116). Because trap netting has been unsuccessful for crappie at Gilmer Reservoir, an alternative

sampling method should be used to collect fish to monitor growth and body condition. Anecdotal evidence suggests tandem hoop nets baited with soap can catch crappie during spring. Therefore, we will deploy 10 baited tandem hoop net series during spring 2021 to obtain crappie for age-and-growth (N = 13, range 9.0 to 10.9 inches) and condition (10 fish/inch group) analysis.

Forage Fish: Trend data on relative abundance and size structure of sunfishes, Gizzard Shad and Threadfin Shad have been collected biennially since 2008. Continuation of sampling, as per Largemouth Bass above, will allow for monitoring of large-scale changes in sunfishes and shad relative abundance and size structure. No additional effort will be expended beyond effort necessary to achieve Largemouth Bass objectives. Instead, Largemouth Bass body condition can provide information on forage abundance relative to predator density. Relative weight of Largemouth Bass ≥ 8" TL will be determined from their length/weight data (maximum of 10 fish weighed and measured per inch class).

Creel Survey: Largemouth Bass, crappie, and Bluegill are popular target species among anglers at Gilmer Reservoir. Directed angling effort, catch rates, harvest, and expenditures will be estimated during an access-point creel survey conducted from 1 June 2020 through 31 May 2021. Recreational fishing data will also be useful for evaluation of the fishery under the 18-inch MLL for Largemouth Bass, and to monitor angling trend data from previous surveys for large-scale changes that may warrant further investigation.

LITERATURE CITED

Anderson, R. O., and R. M. Neumann. 1996. Length, weight, and associated structural indices. Pages 447-482 in B. R. Murphy and D. W. Willis, editors. Fisheries techniques, 2nd edition. American Fisheries Society, Bethesda, Maryland.

DiCenzo, V. J., M. J. Maceina, and M. R. Stimpert. 1996. Relations between reservoir trophic state and Gizzard Shad population characteristics in Alabama reservoirs. North American Journal of Fisheries Management 16:888-895.

Guy, C. S., R. M. Neumann, D. W. Willis, and R. O. Anderson. 2007. Proportional size distribution (PSD): a further refinement of population size structure index terminology. Fisheries 32(7): 348.

Wright, L. D., and T. J. Bister. 2013. Inland Fisheries Monitoring and Management Program, 2012 Fisheries Management Survey Report, Gilmer Reservoir. Texas Parks and Wildlife Department, Federal Aid Report F-221-M-3, Austin.

Table 1. Characteristics of Gilmer Reservoir, Texas.

Characteristic	Description
Year constructed	2000
Controlling authority	City of Gilmer
County	Upshur
Reservoir type	Tributary
Surface area	1,010 acres
Watershed area	24,214 acres
Shoreline Development Index (SDI)	1.6
Shoreline length	7.5 miles
Maximum depth	28 ft
Conservation pool	315 ft msl
Conductivity	132 umhos/cm

Table 2. Boat ramp characteristics for Gilmer Reservoir, Texas, April, 2013. Reservoir elevation at time of survey was 315 feet above mean sea level.

Boat ramp	Latitude Longitude (dd)	Public	Parking capacity (N)	Elevation at end of boat ramp (ft)	Condition
FM 852 Public Ramp	32.75301 −95.00607	Y	100	309	Excellent, no access issues

Table 3. Harvest regulations for Gilmer Reservoir, Texas.

Species	Bag Limit	Length limit
Catfish, Channel	25	12-inch minimum
Bass, Largemouth	5	18-inch minimum
Crappie, White and Black Crappie, their hybrids and subspecies	25 (in any combination)	10-inch minimum

Table 4. Stocking history of Gilmer Reservoir, Texas. FGL = fingerling; AFGL = advanced fingerling; ADL = adults.

Species	Year	Number	Life Stage
Bluegill	2000	216,422	FGL
	Total	216,422	
Channel catfish	1996	6,236	FGL
	1997	400	ADL
	1997	9,918	FGL
	2000	4,125	AFGL
	2000	49,500	FGL
	2001	40,000	FGL
	Total	110,179	
Florida largemouth bass	1996	10,197	FGL
	1997	3,439	AFGL
	1997	20,282	FGL
	2000	11,405	FGL
	2001	80,000	FGL
	2008	102,852	FGL
	2009	101,517	FGL
	2010	101,886	FGL
	2011	104,730	FGL
	2013	109,862	FGL
	2015	101,789	FGL
	Total	747,959	
ShareLunker largemouth bass	2011	30,891	FGL
	Total	30,891	
Threadfin shad	1997	2,000	ADL
	2002	6,000	ADL
	Total	8,000	

Table 5. Objective-based sampling plan components for Gilmer Reservoir, Texas 2016 – 2017.

Gear/target species	Survey objective	Metrics	Sampling objective
Electrofishing			
Largemouth Bass	Abundance	CPUE – Stock	RSE - Stock ≤ 25
	Size structure	PSD, length frequency	N ≥ 50 stock
	Age-and-growth	Age at 14 inches	N = 13, 13.0 – 14.9 inches
	Condition	W_r	10 fish/inch group (max)
Angling			
Crappie	Condition	W_r	10 fish/inch group (max)
	Age-and-growth	Age at 10 inches	N = 13, 9.0 – 10.9 inches

Table 6. Survey of structural habitat types, Gilmer Reservoir, Texas, 2012. Shoreline habitat type units are in miles and standing timber is acres.

Habitat type	Estimate	% of total
Natural	7.5 miles	100.0
Standing timber	367.0 acres	36.3

Table 7. Survey of aquatic vegetation, Gilmer Reservoir, Texas, 2013 – 2016. Surface area (acres) is listed with percent of total reservoir surface area in parentheses.

Vegetation	2013	2014	2015	2016
Native submersed				3 (0.3)
Native floating-leaved				13 (1.3)
Native emergent				2 (0.2)
Non-native				
Hydrilla (Tier III)*	351 (34.8)	363 (35.9)	314 (31.1)	282 (27.9)
Alligatorweed (Tier III)*			< 1 (trace)	

*Tier III is Watch Status

Gizzard Shad

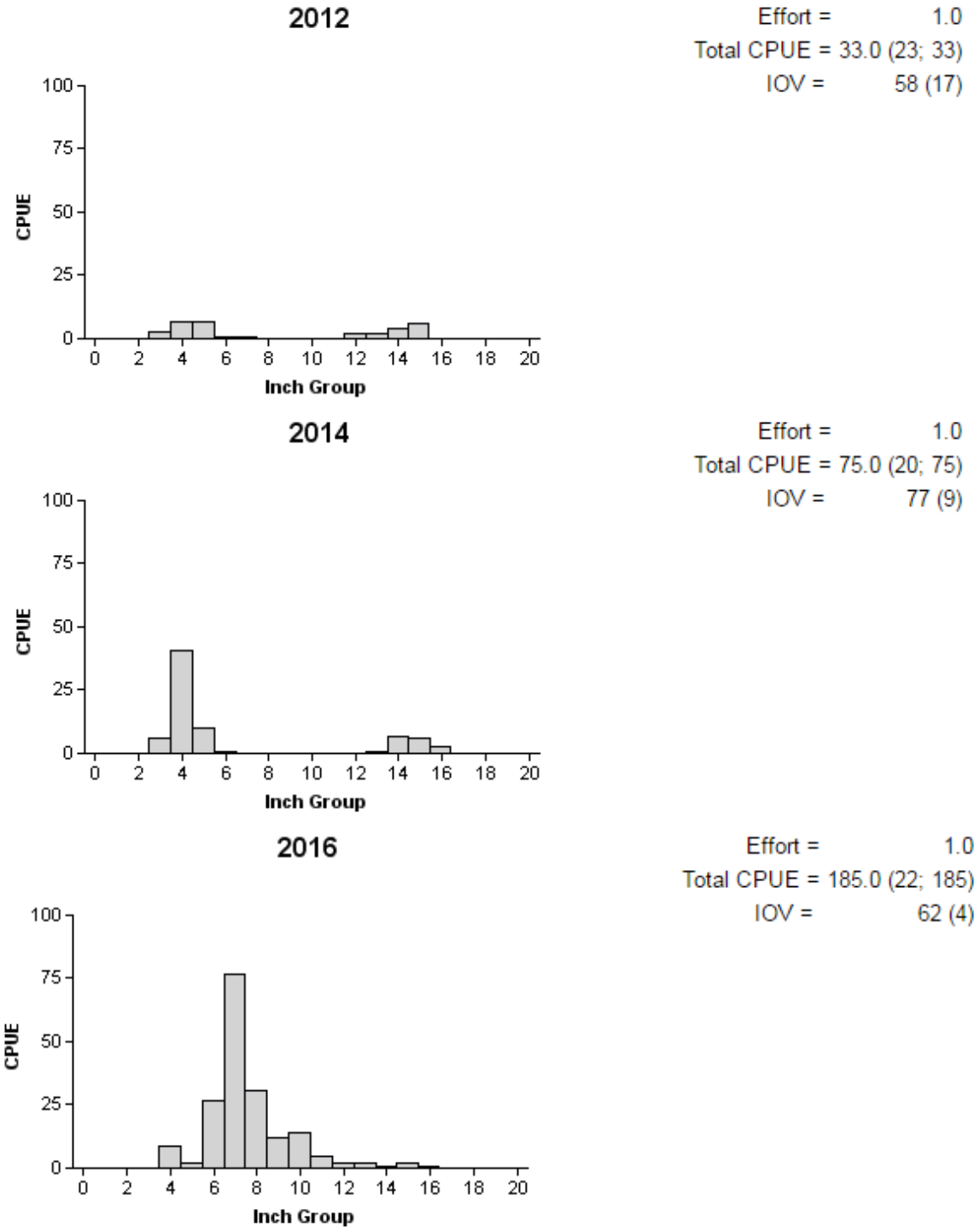


Figure 1. Number of Gizzard Shad caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for IOV are in parentheses) for fall electrofishing surveys, Gilmer Reservoir, Texas, 2012, 2014, and 2016.

Bluegill

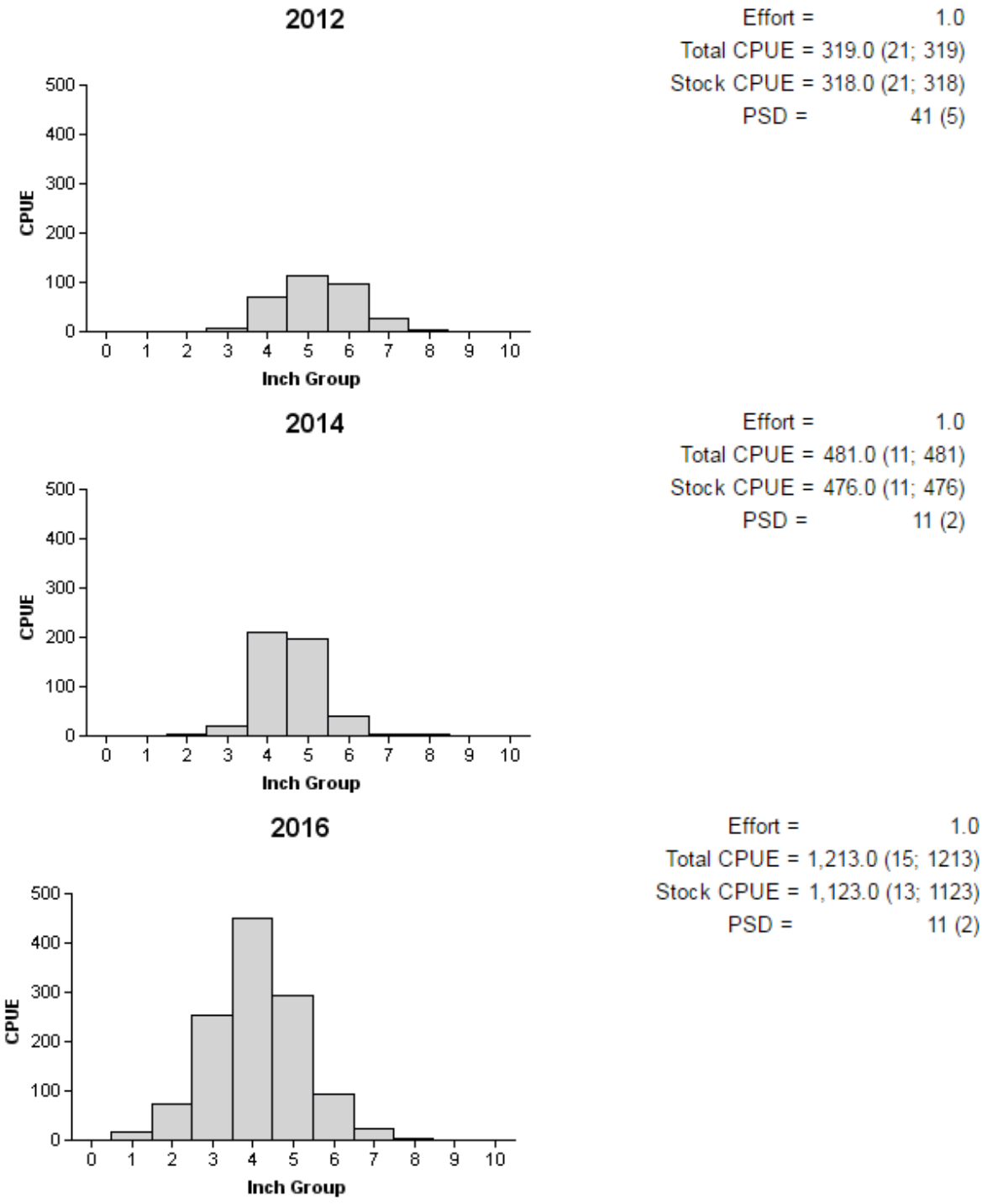


Figure 2. Number of Bluegill caught per hour (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Gilmer Reservoir, Texas, 2012, 2014, and 2016.

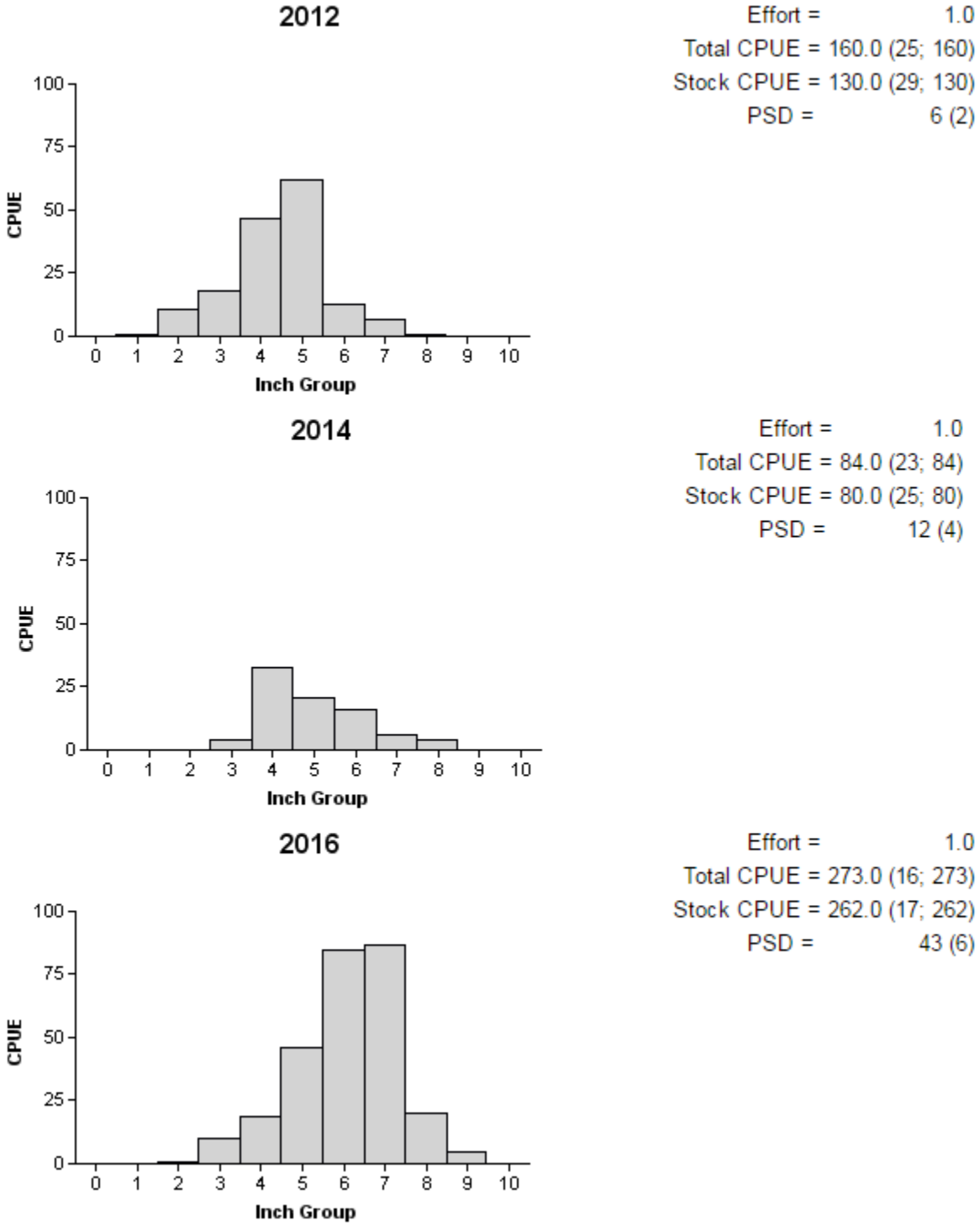


Figure 3. Number of Redear Sunfish caught per net night (CPUE) and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Gilmer Reservoir, Texas, 2012, 2014, and 2016.

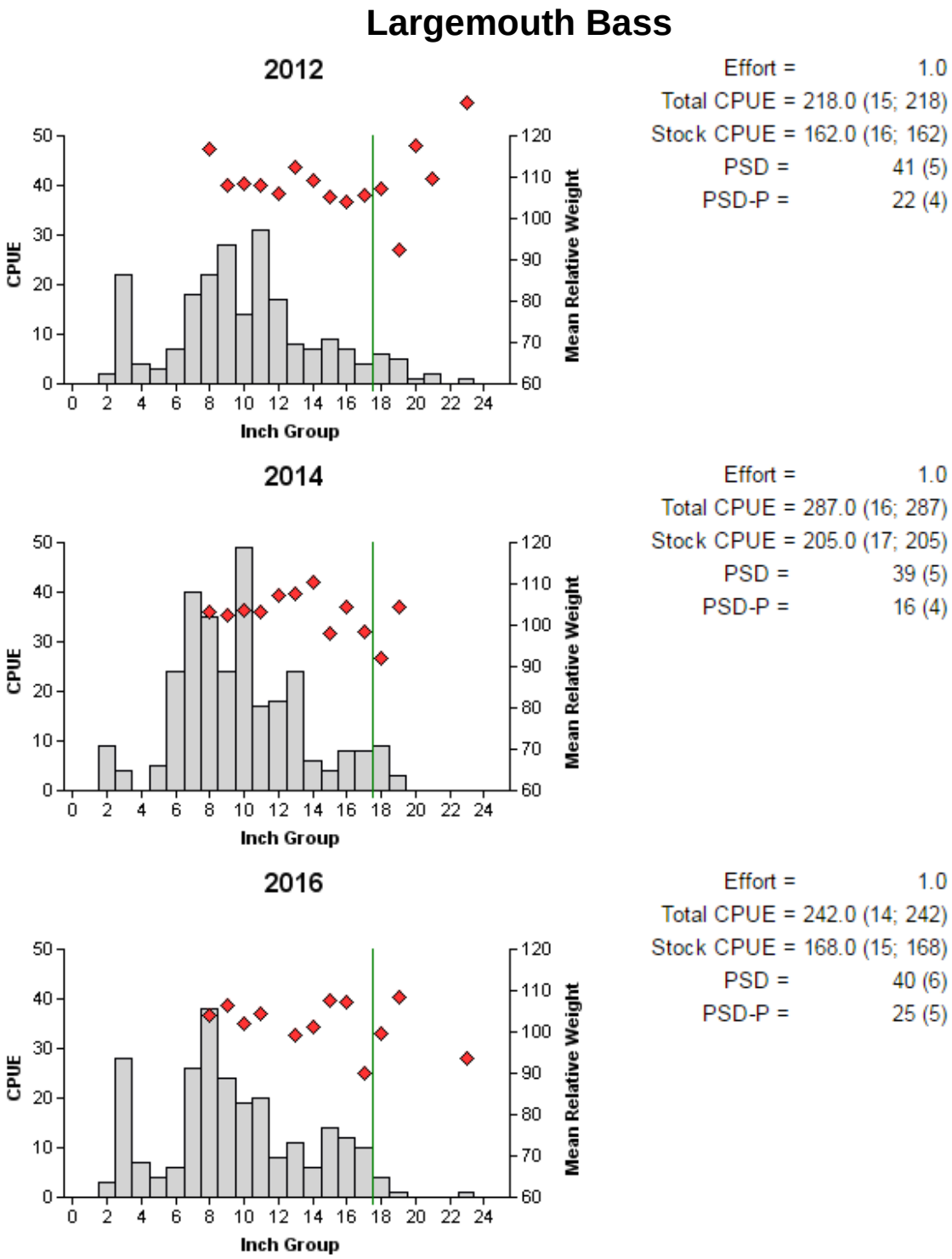


Figure 4. Number of Largemouth Bass caught per hour (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for fall electrofishing surveys, Gilmer Reservoir, Texas, 2012, 2014, and 2016. Vertical lines indicate the minimum length limit at time of survey.

Table 8. Proposed sampling schedule for Gilmer Reservoir, Texas. Survey period is June through May. Electrofishing is conducted in the fall and hoop netting will be conducted in the spring. Standard survey denoted by S and additional survey denoted by A.

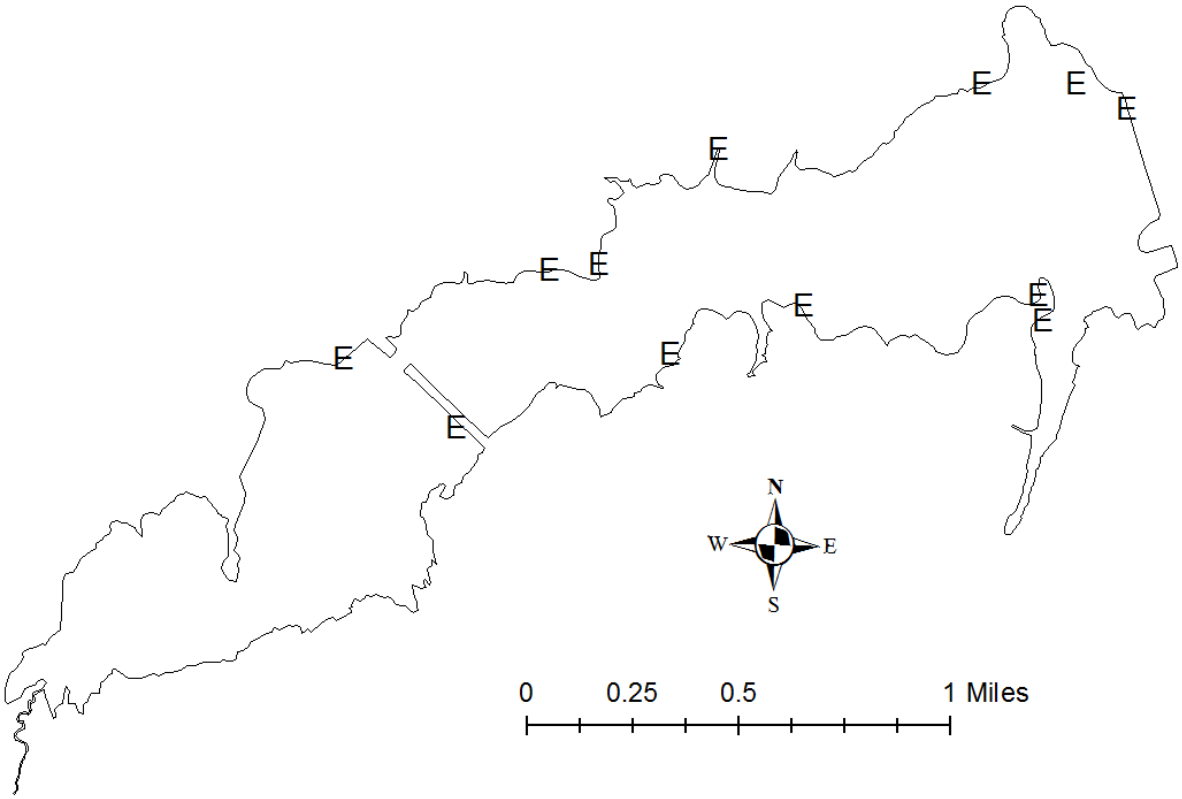
Survey year	Electrofish Fall	Hoop Net	Habitat		Access	Creel survey	Report
			Structural	Vegetation			
2017-2018				A			
2018-2019	A			A			
2019-2020				A			
2020-2021	S	A		S	S	A	S

APPENDIX A

Number (N) and catch rate (CPUE) of all target species collected from electrofishing from Gilmer Reservoir, Texas, 2016. Sampling effort was 1 hour for electrofishing.

Species	Electrofishing	
	N	CPUE
Gizzard Shad	185	185.0
Threadfin Shad	89	89.0
Warmouth	3	3.0
Bluegill	1,213	1,213.0
Longear Sunfish	16	16.0
Redear Sunfish	273	273.0
Redspotted Sunfish	12	12.0
Largemouth Bass	242	242.0

APPENDIX B



Location of sampling sites, Gilmer Reservoir, Texas, 2016. Electrofishing stations are indicated with an E. Water level was near full pool at time of sampling.